



# ØBEAT

COLO. SPRINGS,  
COLORADO

(The convention city - 1971)

NOVEMBER 1970

## ROSIE ELECTED FIRST WOMAN PRESIDENT OF PPRAA

The PPRAA gained its first woman president when Rosemarie Lewis, WAØMNL, was elected at the October meeting after being returned to the Board of Directors after a year's absence. Rosie formerly a Board member and Secretary, declined to run for reelection in 1969.

George Kowalski, WØGCH, a former Board member, was reelected to the board and elected Vice President, with Oak Stockton, KØROL, elected as Secretary and John Kester, WAØLVL, reelected as Treasurer.

Bill King, WØLKD, and Pete Demario, KØUDG, were reelected to fill their expiring terms as Board members.

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## PRESIDENT'S COLUMN

No! PPRAA has not joined the Women's Lib!!

Yes! I am PPRAA President (but give me a chance)!!

No! The business meetings will not be conducted in CW!!

We (the Board of Directors and officers of PPRAA) wish to express our thanks to former directors and officers for all their hard work.

We also thank the members for their vote of confidence in us and we desire your continued support of the club and its ac-

## DENVER SPEAKERS FEATURE OF NOVEMBER PPRAA MEETING

The next meeting of the PPRAA will be November 11, at the U. S. Naval Reserve Training Center, Lake and Logan Streets, starting at 7:30 p. m.

Speakers for the evening will be WØLRN, Bud Thompson, route manager, and WØLRW, Chris Grant, from the Denver area.

(Was supposed to have received some information on the program in September or during my vacation in October, but when I returned, I had received nothing, so not able to give any further information on the program - Editor)

The December 9 PPRAA meeting will be held at Dot's Good Food Restaurant, 1930 S. Nevada Ave., in the Springs, at 6 p. m. A complete fried chicken or roast turkey dinner, including tax and tip will cost \$3. per person. Reservations must be made by December 6. Make reservations with Rhea Allison, K5RDY/Ø, 632-8740, Rosie or Linda Lewis, WAØMNL or MNM, 632-5721, or Ida Demario, WAØNTA, 596-3633.

vities during the coming year.

There is an interesting meeting and program planned for November 11 (7:30 p. m. Y'all come!!!

See you at the meeting!!

Rosie, WAØMNL

## ZERO BEAT

Published monthly in the interest of the members of the Pikes Peak Radio Amateur Assn. Inc., Colorado Springs, Colorado.

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1142 Rainier Drive, Colorado Springs 80910

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The PPRAA meets the second Wednesday of each month in the U. S. Naval Reserve Training Center, Lake and Logan Streets, starting at 7:30 p. m. All radio amateurs and other interested persons are invited to attend.

Copy deadline for the DECEMBER ZERO BEAT is November 24.

## Editorial

## 'WE NOTE WITH PRIDE'

It appears that our "fellow amateur operators" (and we suppose that under the current "equal rights" movement in the women's "liberation" drive, the "fellow" also applies to the YLs and XYLs behind the keys and mikes) down Pueblo way are getting some national recognition for their work in the repeater field.

We refer to the story in this issue reprinted from the Pueblo Ham Club's "Grid Leak" regarding the joint Pueblo club-ARRL project which will result in some repeaters for the club and some articles on their construction which will appear in QST and eventually will be printed as a manual on repeaters.

(Admittedly, this information may be just a bit "old hat," since it appeared two or three months ago, but if some of our readers are still unaware of it, we figure it is still "news").

We of the PPRAA naturally feel a strong interest in the project since much of this development of repeaters in the Pueblo-Colorado Springs area is the result of the cooperative financial, construction and other efforts of the Pueblo club and the PPRAA--and members of these clubs. In fact, some of the Pueblo amateurs who have been involved in this repeater development are also members of the PPRAA, among them Bob Shriner, WAØUZO (mentioned in the article) and Vic Beaver, WØKVX.

For this reason, if no other, we wish

## BOARD OF DIRECTORS

Pres. - Rosemarie Lewis, WAØMNL  
Vice Pres. - George Kowalski, WØGCH  
Secty. - Oak Stockton, KØROL  
Treas. - John Kester, WAØLVL

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Pete Demario, KØUDG, Chairman  
Ed Pompea, KØZPG  
Dean Jaynes, WAØPJH  
Bill King, WØLKD -o-

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the members of the Pueblo club involved in this project "the very best" and, we are sure, the full cooperation of the PPRAA and its members in anything we can do to be of assistance.

-o-

Much of this issue of Zero Beat (including this editorial material) is being prepared before we leave on our four-week vacation trip in October so that we can finish it and get it to the printer in time in the few days remaining after we return.

We will, of course enjoy our respite from our typewriters--at home on Zero Beat and at the office on our "bread and butter" writing as assistant editor of the Army Air Defense Command monthly Argus--as we revisit San Francisco, the Redwoods and our former QTH in Portland, Oregon.

One "disappointment," however, is that when we return to the Springs we will have missed, for the first time in the six years we have been a member of the PPRAA, the opportunity to be on hand to express our choice for the new PPRAA officers and four Board members.

By the time this is read, the only thing that can be said is "You've made your choice of new officers and Board members---now BACK THEM UP!!

With the prospect of a convention next June that will top not only any one ever held in Colorado Springs, but as well, will be the best one ever held in the Rocky Mountain Division of the ARRL, these officers and

(Continued on Page 3)

**UEBLO CLUB REPEATER GROUP  
TO RECEIVE NATIONAL RECOGNITION**  
(From the "Grid Leak" of the Pueblo Ham Club).

The Pueblo Ham Club, Inc. has reached an agreement with the American Radio Relay League to construct an amateur 2-meter repeater.

The component parts will be published in QST as a series of articles and the complete system will be published in a future handbook.

This will be a joint venture, with the club furnishing some of the parts and the ARRL supplying the balance. The completed machine will become the property of the club, and all publication rights to the circuitry developed will belong exclusively to the ARRL.

The repeater committee, chaired by WØMCH, and consisting of WAØUZO, KØYFR, along with club president WØRSA, are now busy planning the system and working on block diagrams.

Two complete 2-meter repeaters and a 432 Mhz. repeater will be included in the system. Touchtone control circuitry will allow the three repeaters to be used in many different combinations and functions. This unit will be so designed to enable other builders to utilize any or all parts of it in order to tailor it to individual requirements.

Modular solid state circuitry will be used, so that if system requirements change or enlarge in scope, the repeater can easily be adapted to cover these requirements by the simple addition of another module.

Additional features will include a back-up repeater that will automatically take over if the primary unit fails, an IDer that can be used with either voice or code, off-frequency and over-deviation devices, a search-seize system that will be programmable by touchtone, and much more.

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**EDITORIAL**

(Continued from Page 2)  
Board members face a lot of time-consuming and hard work.

While, we are sure, they will do their best to accomplish this "feat," they cannot do it "on their own" without the full cooperation of every member of the PPRAA. It is now up to each member of the PPRAA to do his or her part to help these "leaders" they have selected, to make the coming convention the "prime topic of conversation" on the amateur radio frequencies and eyeball QSOs for a long time to come.

---Frank, WØHWH

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Two more members were added to the PPRAA rolls at the October meeting.

They were: Charles Lucas Jr., WAØWJN, and Harl Porter, K7CAN/Ø.

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## ROSIE'S REPORTINGS

By Rosemarie Lewis, WAØMNL

-rr-

PPRAA members WA6BGG/Ø, Larry, and WAØKXO, Dan, have charge of the SCSC club station WØENA and are active on the nets. Larry is secretary-treasurer of the SCSC Radio Club.

-rr-

WA5USO, John, and XYL Virginia--whose QTH is Santa Fe, N. M., have been regulars on the Colorado High Noon Net. The first of September they packed up their rig and came to Colorado to visit the members. They worked mobile all the way and had a great time, meeting net members and seeing the country.

While in the Springs they were dinner guests of WØUJA, Dick, and his XYL. Other PPRAA members attended and a fine time was had, enjoying the food prepared by Dick's XYL and the evening spent visiting. Dick and Erlane showed them the tourist attractions in the Springs area and many hams in the area dropped by the motel to visit the royal pair.

John says it has been the trip of his lifetime. He is almost totally disabled and finds Ham Radio more than just a hobby. It was on radio he heard about drive-in movies and some of the shows being shown. Virginia (they had been married less than a year) decided John should be afforded the opportunity of getting out into the world. They bought a VW bus and with a special bed and hoist to solve John's problems they made a trip to Albuquerque to a drive-in,---from that trip the Colorado trip began taking form. While they were in the Springs a painted copy of the PPRAA emblem was given to them.

-rr-

The 10 meter band is great these days with lots of DX.

-rr-

WØBD, Bill Campbell, had a letter he wrote in defense of hams printed in a local paper. The letter clarified some of the aspects of radio interference, their cause and solutions.

-rr-

In a change to information published last month regarding places to send for QSLs---KØs should send their requests to: Dr. Philip Rowley, Route 1, Box 455, Alamosa, Colorado 81101.

-rr-

WAØERA, Eldon, has been named by Cecil Wood as Civil Defense Radio Officer.

-rr-

Heard on the air: "My XYL and I are incompatible. I have the income, she has the patable."

-rr-

WBØAXI, Rick, has been busy getting set up on a three acre lot. He is active on Air Force MARS and spending time running fence patches. He has had good band conditions with Vietnam.

-rr-

On the sick list:

WAØYVS, Harlan Parks, and KØSLN, John Felix, who are recovering from surgery.

WAØWRJ, Ken Fry, who underwent surgery and will be spending week days in Denver receiving more treatment.

WAØMNM, Linda Lewis, who suffered a whip lash neck in an auto accident.

-rr-

The Colorado Ham Directory printed by the Denver Radio Club is a worthwhile booklet. It has more than 30 pages of amateur names, QTH, and there is a listing of amateurs by name, complete with address and phone numbers. The book costs \$1. Pick up your copy at the November PPRAA meeting, the Denver guests promise to bring us some.

-rr-

The 2 meter FM group helped with communications October 18. A group of young people were lost from their party. There were 10 in the group, ages up to 19 years. They were last seen above Gold Camp Road. 2 meter amateur mobiles were stationed at pathways coming out the area in the hopes the young people would follow a path and come out that way. They did, and none the worse for the extra hike. Four mobiles took part with a fifth on the way taking some coffee for the operators when word was received that all was OK.

## AND THEN THERE WAS ONE?

(By George H. Goldstone, W8AP, in the Washington, D. C., Foundation for Amateur Radio "Auto Call").

Several years ago there was quite an active camera industry in the United States. The only competition was from several German firms, Leica, Zeiss and a few others. But today, the American firms have virtually dropped out of camera production, and Japanese-made cameras have taken over the entire market.

Similarly, in the audio hi-fi field, American-made equipment had competition from some British equipment of excellent quality, but now Japanese equipment is coming into our market in quantity.

And in amateur radio equipment, Yaesu is a full-page advertiser in all the ham magazines, while we see Bob Henry offering the "Tempo One" transceiver at just under \$300 for a 5-bander.

At the same time, we note some other happenings that discourage U. S. amateurs as sources dry up.

National Radio Company, whose equipment and component parts have been a mainstay of amateur radio for two generations, has filed a Chapter IX petition in Federal Court in Boston, seeking a reorganization in lieu of bankruptcy.

A fantastic percentage of the equipment

manufacturers who were making ham gear at the beginning of World War II, or just after, have abandoned the field.

E. F. Johnson has apparently dropped from all but CB production; its SSB lines never did go over like its Viking line of AM/CW gear; and the proposed "re-entry" into the amateur field with a \$1300 transceiver never came about, for obvious reasons.

RME dropped out with the Model 6900 receiver, RCA is long gone, REL came back briefly with the purchase of the Eldico line, but dropped it to concentrate on military and commercial production; Elmac and Morrow, after going great in the AM mobile wars, dropped out after SSB prototypes were produced.

Gonset has kicked around with both AM and SSB, but has dropped its SSB exciter, producing only a straightforward linear amplifier.

Some new manufacturers have shown up with linear amplifiers, but only "Signal One" - a part of National Cash Register's ECI Division - has joined the sales battle with a transceiver.

With Heath's new SB-220 overselling and overpowering many of the linear amplifiers, there seems little doubt it will soon outnumber other commercial linears in am-

(Continued on Page 7)

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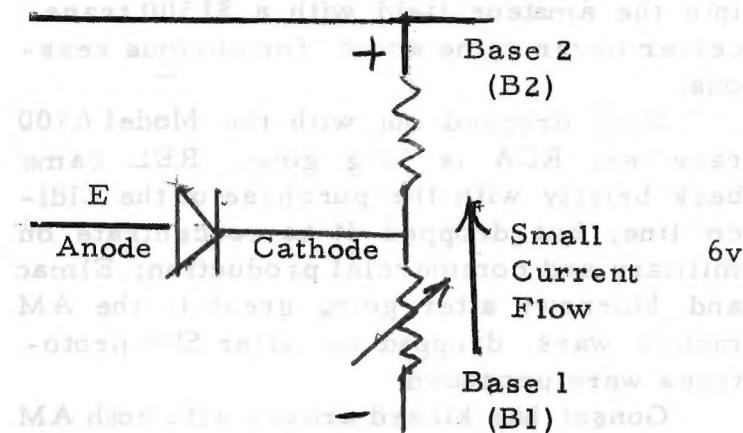
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## UNDERSTANDING TRANSISTORS

By Jim White, Assoc. Member M. E. M. E., WB6RAG  
 (From the Tulare County (Calif.) Radio Club "Gridleak"  
 via the Central California Radio Council "Circle")

## LESSON 15

## THE UNIJUNCTION TRANSISTOR



The unijunction transistor may be considered a diode controlled resistor or voltage divider. With Base 1 connected to B minus and Base 2 to B plus, current will flow from B1 to B2. The strength of the current flow will depend on the voltage and the resistance between B1 and B2. This resistance variance with the unijunction of the current flow between Base 1 and Base 2 is normally several milliamps.

The total resistance between Base 1 and Base 2 is tapped at a point by the cathode of the controlling diode. This forms a voltage divider and creates an emitter junction.

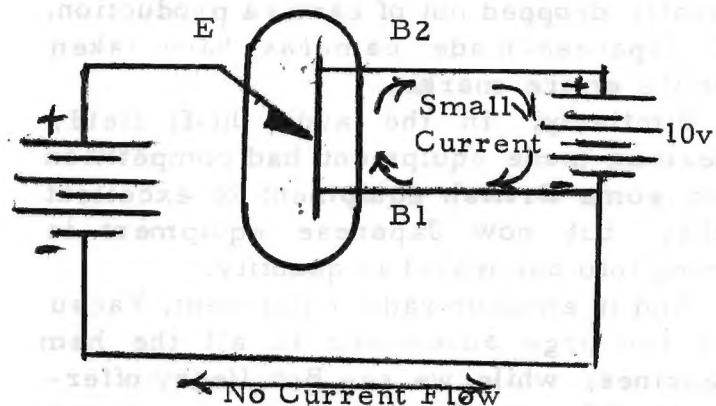
The current flow from Base 1 to Base 2 applies a positive voltage to the cathode of the controlling diode. This particular voltage varies with the unijunction transistor type and is determined during manufacture by the actual physical location of the emitter junction in relation to Base 1 and Base 2.

## BE PREPARED - HAVE PLENTY OF GAS

By Rosemarie Lewis, WA0MNL

Our EC, George Kowalski, W0GCH, does his job well and at different times has stressed the importance of being prepared,

## STANDOFF RATIO .6



If this junction is formed exactly halfway between Base 1 and Base 2, the voltage of the cathode would be of positive polarity and exactly half the value of the voltage applied across Base 1 and Base 2. Moving the junction point closer to Base 2 raises this voltage and, vice-versa, moving the junction point closer to Base 1 reduces or lowers this voltage.

This particular voltage is known as "standoff" voltage and is usually expressed as a ratio or percentage of the total voltage applied across Base 1 and Base 2. This percentage or ratio is known as the "intrinsic standoff ratio" and varies in value from .4 to .8, depending on the transistor type.

For example: If the voltage across the Base 1 and Base 2 is 10 volts and the standoff ratio is .6, the voltage at the cathode of the control diode would be  $.6 \times 10$ , which is equal to 6 volts.

He feels this is especially true in mobile operation. He says always to have plenty of gas in your car and your rig in good working order.

(Continued on Page 8)

## AND THEN THERE WAS ONE?

(Continued from Page 5)

ateur use. The picture gathers more definition as the months go by--U. S. Amateurs may soon have a choice of either Heathkits, or Japanese-made gear! And if Heath opens a plant in Benta Hapa, Japan, the U. S. production show would be over.

One gleam of hope abides. Amateur radio operators have some ingenuity still and if U. S. manufacturers stop building ham gear, there are a lot of hams who MIGHT just build some gear for themselves.

A judicious parts buyer can build a 2 KW PEP linear for less than \$100, and have an excellent unit. Metal fabrication isn't too much of a job for a linear, although some transceivers require real artistry in metal bending.

Whether or not home construction increases depends very much on the content of amateur radio magazines. We would hope that amateur publishers would collect articles on sideband generator modules -- from microphone to output of the filter, perhaps. What is needed is a "drop-in module" that could be incorporated into almost any transmitting layout.

Why couldn't Collins Radio, for example, sell a printed circuit board to use with its FB series of mechanical filter in

a solid-state SSB generator -- where the buyer would get a package consisting of a PC board, a mechanical filter, two crystals, a circuit diagram and a parts list of standard parts? Such a basic unit is now imported from West Germany (KVG) and we see no reason why Collins couldn't market one here, selling a lot of their filters in the process.

Perhaps time is later than we think, but we are of the opinion that ARRL, thru QST magazine, and other publishers as well, should go out of their way to stimulate home production of certain basic amateur gear.

\*\*\*\*\*  
\* EDITOR'S NOTE \*  
\* Upon our return from a four-week, \*  
\* 4,700-mile vacation trip, with only two \*  
\* days to get Zero Beat to the printer, we \*  
\* found a wealth of material from Rosie- \*  
\* so much, in fact, that there wasn't room \*  
\* to get all of it in this issue, much of \*  
\* which had been prepared before the \*  
\* trip in anticipation of the "short fuze" \*  
\* following the return. Among this mat- \*  
\* erial was an article on the 20th anniver- \*  
\* sary of the PPRAA in November and a \*  
\* list of committees supplied by "Madam \*  
\* President. However they will appear in \*  
\* December issue. Frank, WØHWH \*  
\* \*\*\*\*\*

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**BE PREPARED - HAVE PLENTY OF GAS**  
(Continued from Page 6)

Well, George does practice what he preaches. His rig was in good running order when he ran out of gas. He was out in the boondocks and a call on 2 meter FM got an answer from Eldon, WAØERA, who went to his rescue.

A red-faced George cited his experience as an example of the importance of a rig in your vehicle, as well as monitoring by base stations. He found out how many stations were monitoring when remarks "Get your gas here, George, there's a gas war on," "Would horse power do, George?

I just passed a stable," "Gas is cheaper on the west side" and just "Aw, George!"

In the next day's mail he received a handful of beans. George hopes all learned from his experience.

P.S. Since I wrote this, guess who ran out of gas on a cold stormy night, a mile away from a gas station, 11:30 at night - and no rig in car? This Reporting Rosie!

What did I do? How did I solve the problem? Was I really out of gas on a cold stormy evening, 11:30 at night, a mile from a gas station and no rig in the car?

I will confess all at the November 11 PPRAA Meeting.

**ZERO BEAT EDITOR**

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**CM**

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